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For You Interest

Iowa Farm Science Editorial Board

For Your Interest

farm buildings and equipment

Savings Possible With In-Storage Cooling

YOU CAN save from 30 to 90 minutes in each drying-cooling cycle for high-temperature dryers by using small aeration fans for in-storage cooling of dried grain, according to a recent study.

With the use of these fans the average grain temperature in 3,500 bushel cylindrical bins was reduced to 65° F. in four to seven weeks after storage. The length of time varied with the temperature of the dried corn when transferred to storage and with atmospheric temperature.

The cost of power for the cooling unit was about one-tenth cent per bushel per year. The same fan and duct system that is essential for bin aeration was used.

Because of the time saving, the number of bushels dried by a given unit may be increased by 15 to 30 percent.

special subjects

Vet Clinic Tests On Animals

OF 858 animals checked for rabies at the ISU Veterinary Diagnostic Laboratory from Oct. 1, 1963, through Sept. 30, 1964, 612 tested negative.

Of 320 skunks tested, 244 (76 percent) showed rabies. One of seven foxes and two of five bats also showed rabies.

The percentage of rabies in skunks is probably not the true incidence in the field because the animals tested were sent to the laboratory as suspected rabid animals.

A total of 1,043 animals of 33 species were checked at the Iowa State University Vet Diagnostic Laboratory during the year.

Plant Diseases Took Heavy Toll

CORN ROOT and stalk rot and sugar beet leaf spot took high tolls in Iowa during 1964.

The unusual abundance of corn root and stalk rot resulted in premature dying of corn plants. These diseases were also closely associated with abundant ear droppage.

Sugar beet leaf spot was discovered three weeks later in western Iowa during 1964 than in 1963. Even so, nonsprayed beets lost from 40 to 60 leaves due to this disease.

Experimental sprayings with Maneb three or five times cut leaf losses to 25 and 23 leaves, respectively. These sprayings also increased tonnage 22 and 31 percent and sugar yield 22 and 37 percent, respectively.

It appears that leaf spot control is still a major factor in successful sugar beet production in western Iowa.

Conducting the surveys are W. F. Buchholtz and J. R. Wallin.

grains

How Weeds Reduce Soybean Yields

PRELIMINARY evaluation of soybean yields and mature weed yields suggests that losses due to weed competition are essentially the same for nodulating and non-nodulating soybeans. The comparison was on the basis of bushels reduction per hundredweight of mature weed infestation.

This supports earlier preliminary work and indicates that the competitive effects of weeds—shading and competition for moisture — are independent of competition for available nitrogen.

In the study, conducted by D. W. Staniforth, nitrogen applications and supplemental irrigation water were used to obtain a range of production conditions, including that where the yields of weed-free nodulating and non-nodulating soybeans approached equality.

Search for Superior Soybean Strains

FERRIC IRON additions to soil have a beneficial effect on general plant vigor and increased soybean yields under severe root rot conditions.

Application of 150 pounds of ferric iron per acre increased the average yield of Blackhawk soybeans 26 percent and that of Chippewa 27 percent under extremely high levels of nitrogen (1200 lbs. of N per acre). Such high levels of nitrogen usually cause severe damage, but with the addition of 150 lb. of iron, yields were as large as those on soil which normal levels of nitrogen. Lower rates of iron gave proportionally lower increases in yields.

Other soybean research has identified disease resistant varieties and discovered the cause of toxicity in beans. Researchers found phosphorus toxicity in soybeans was caused by stimulation of growth of a bacterium *(B. subtilis)* that rapidly depleted the nitrogen supply available to the plants.

Breeding and testing research was conducted to determine the nature of disease resistance and the incorporation of disease resistance into commercial soybean varieties. A new, superior, stem canker resistant line has been developed. A number of desirable bacterial blight resistant soybean strains look promising.

Research was conducted by J. M. Dunleavy and C. R. Weber.